

WHAT IS CLAIMED IS:

Sub  
A1

1. A computer-implemented method for selecting objects comprising:  
displaying a two-dimensional viewport of one or more existing objects  
maintained within a three-dimensional space represented in a computer-implemented  
5 graphics system;  
obtaining a selection request from a user using a cursor selection device while  
locating the cursor in the two-dimensional viewport;  
examining the existing objects to obtain one or more relationships between the  
existing objects;  
10 creating one or more virtual objects based on the relationships;  
creating a selection set comprised of at least one of the existing objects and at  
least one of the virtual objects based on the relationships;  
determining if the selection request is for an object in the selection set; and  
if the selection request is for an object in the selection set, selecting all of the  
15 objects in the selection set.
2. The method of claim 1 wherein at least two of the existing objects are  
line segments and at least one of the virtual objects is a connector connecting the two  
line segments.

20

3. The method of claim 2 wherein the cursor is located between the two line segments when the selection request is obtained.

4. The method of claim 1 wherein the relationships are based on a placement of the existing objects.

5. The method of claim 1 wherein the relationships are based on similarities between the existing objects.

10 6. The method of claim 1 further comprising replying to a query using the objects in the selection set.

Sub  
A2

7. A computer-implemented graphics system for selecting objects

~~comprising:~~

15 a computer having a monitor attached thereto;

a graphics program executing on said computer;

means, performed by the graphics program, for displaying a two-dimensional viewport of three-dimensional space displayed by the graphics program;

20 means, performed by the graphics program, for obtaining a selection request from a user using a cursor selection device while locating the cursor in the two-dimensional viewport;

095508-060100  
001090-8058560

A2

means, performed by the graphics program, for examining the existing objects to obtain one or more relationships between the existing objects;

means, performed by the graphics program, for creating one or more virtual objects based on the relationships;

5 means, performed by the graphics program, for creating a selection set comprised of at least one of the existing objects and at least one of the virtual objects based on the relationships;

means, performed by the graphics program, for determining if the selection request is for an object in the selection set; and

10 means, performed by the graphics program, for selecting all of the objects in the selection set if the selection request is for an object in the selection set.

8. The system of claim 7 wherein at least two of the existing objects are line segments and at least one of the virtual objects is a connector connecting the two  
15 line segments.

9. The system of claim 8 wherein the cursor is located between the two line segments when the selection request is obtained.

20 10. The system of claim 7 wherein the relationships are based on a placement of the existing objects.

11. The system of claim 7 wherein the relationships are based on similarities between the existing objects.

5 12. The system of claim 7 further comprising means, performed by the graphics program, for replying to a query using the objects in the selection set.

Sub  
Ag

13. An article of manufacture embodying logic for selecting objects in a computer-implemented graphics system, the logic comprising:

10 displaying a two-dimensional viewport of one or more existing objects maintained within a three-dimensional space represented in a computer-implemented graphics system;

obtaining a selection request from a user using a cursor selection device while locating the cursor in the two-dimensional viewport;

15 examining the one or more existing objects to obtain one or more relationships between the existing objects;

creating one or more virtual objects based on the relationships;

creating a selection set comprised of at least one of the existing objects and at least one of the virtual objects based on the relationships;

20 determining if the selection request is for an object in the selection set; and

A3

if the selection request is for an object in the selection set, selecting all of the objects in the selection set.

14. The article of manufacture of claim 13 wherein at least two of the existing objects are line segments and at least one of the virtual objects is a connector connecting the two line segments.

15. The article of manufacture of claim 14 wherein the cursor is located between the two line segments when the selection request is obtained.

10

16. The article of manufacture of claim 13 wherein the relationships are based on a placement of the existing objects.

17. The article of manufacture of claim 13 wherein the relationships are based on similarities between the existing objects.

15

18. The article of manufacture of claim 13 further comprising replying to a query using the objects in the selection set.